

## Summary

The main topic of the doctoral thesis is public transport in a smart city, which allows residents to move efficiently around the urban area. Due to continuous technological progress, the public transport area should be supported by modern information and communication technologies (*ICT – information and communication technologies*). The dynamics associated with the fourth industrial revolution force cities to use modern technological solutions. In order to meet these requirements of city management area and by the user, we have to add the Internet of Things technology (*IoT – Internet of Things*), which will be indispensable in the field of urban transport of a smart city now and in the future. This is also confirmed by a review of domestic and foreign literary sources.

The purpose of this study is to develop a model for managing public transportation in a smart city using Internet of Things (IoT) technologies. The model aims to increase the improvements of passenger transportation, improve the quality of transportation services and reduce negative environmental impacts through intelligent traffic management, real-time vehicle monitoring and transportation data analysis. The developed solution will take into account the integration of different modes of transportation, the automation of decision-making processes and the use of advanced algorithms for urban mobility prediction and planning, which will contribute to a more sustainable and efficient public transportation system.

Despite rapid technological progress, the observation shows that there is currently a lack of a systematic management in the area of public transport in the smart city using the Internet of Things. The main research problem was the development of the proprietary model of public transport management in a smart city with the support of Internet of Things technology (MZTPIoT), which will improve the efficiency of public transport in relation to the dynamically changing needs of participants and emerging threats.

Within the framework of research work in the years 2022-2024, the structure of the MZTPIoT v.2.0 model was developed on the plane of empirical methods. During the research, the triple helix relationship (local government, science, business) was used to make the value of the author's model practical in terms of public transport solutions supported by IoT technology.

The results of the study confirm the possibility of using the MZTPIoT v. 2.0 for urban agglomerations with a high degree of complexity of communication infrastructure for analysis of decision problems that are beyond the scope of classical analytical methods.

Presented model will help to make optimal use of available resources, legal standards, which will greatly improve passenger safety and minimize accidents in land traffic.

**Keywords:** public transport, public transportation management, smart city, smart transportation, Internet of Things.